ABSTRACT OF THE INVENTION

Disclosed is a method and apparatus for measuring the percentages of oil and water present in an oil/water mixture. By measuring the energy absorption properties of the oil/water mixture, the percentages of oil and water present in the oil/water mixture can be determined regardless of whether the oil or the water is in the continuous phase and regardless of what the relative proportions of water and oil are. Measuring the energy absorption properties of the oil/water mixture yields a current output which can be plotted on one of two distinct, empirically or theoretically derived data curves. One of the data curves represents oil being in the continuous phase and the other data curve rerpesents water being in the continuous phase. A comparator is used to determine whether the oil or the water is in the continuous phase to thereby select the proper data curve on which the energy absorption is plotted. Each of the curves has the energy absorption properties of the media plotted against the percentage of water and plotting the amount of energy absorbed on the proper curve yields the percentage of water present.

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